

## **Exhibit G**

UNITED STATES DISTRICT COURT  
NORTHERN DISTRICT OF CALIFORNIA  
SAN FRANCISCO DIVISION

ORACLE AMERICA, INC., )  
Plaintiff, )  
vs. ) No. CV 10-03561 WHA  
GOOGLE, INC., )  
Defendant. )

Videotaped Federal Rule 30(b)(6), Topic 7,  
deposition of PATRICK BRADY, taken at the Law  
Offices of King & Spalding LLP, 333 Twin Dolphin  
Drive, Redwood Shores, California, commencing at  
9:36 a.m., Thursday, July 21, 2011, before  
Leslie Rockwood, RPR, CSR No. 3462.

PAGES 1 - 133

1 code -- the Android source code that your team was  
2 providing to HTC, LG and Samsung for loading on their  
3 devices, are you aware that that Android source code was  
4 installed on those devices?

5 MR. KAMBER: Object to the form.

09:56:52

6 THE WITNESS: I can't -- I mean, the source  
7 code that we provided to OEMs, I don't know if that  
8 specific source code was installed on the systems. Many  
9 of the handset manufacturers made changes to the source  
10 code and then loaded it onto their devices.

09:57:11

11 Q. BY MR. MUINO: Let's focus just on the -- on  
12 HTC for a moment.

13 A. Uh-huh.

14 Q. You mentioned the HTC Dream device.

15 A. Yep.

09:57:22

16 Q. Are you aware that the HTC Dream was  
17 installed with Android code?

18 MR. KAMBER: Object to the form.

19 THE WITNESS: I'm aware that the HTC Dream  
20 ran a compiled version of the Android operating system,  
21 yes.

09:57:39

22 Q. BY MR. MUINO: And do you know if the Android  
23 operating system installed on HTC Dream included the  
24 Dalvik Virtual Machine?

25 A. I believe it did, yes.

09:57:52

1 Q. Do you know if it included the dexopt tool?

2 A. I don't know.

3 Q. Do you know if it included the Zygote  
4 process?

5 A. I would believe it did.

09:58:02

6 Q. Do you have any reason to think the code --  
7 Android code installed on the HTC Dream did not include  
8 the dexopt tool?

9 MR. KAMBER: Object to the form, lack of  
10 foundation.

09:58:14

11 THE WITNESS: I don't know enough about the  
12 dexopt tool to know one way or another if it was  
13 installed.

14 Q. BY MR. MUINO: Do you have any knowledge with  
15 respect to the HTC Dream that HTC made any modifications  
16 to the Dalvik Virtual Machine installed on that device?

09:58:22

17 A. They made many modifications to the source  
18 code, and it -- the level of modifications varied on  
19 where they were shipping the HTC Dream. I don't know --  
20 I don't know specifically what modifications they made or  
21 where exactly those changes were made.

09:58:48

22 Q. How do you know that HTC made many  
23 modifications, as you put it, to the Android source code  
24 installed on HTC Dream?

25 A. I remember at the time we -- you know, due to

09:59:04

1 limited resources, Google really worked with HTC and  
2 designed the platform, really, just for the initial  
3 product launch in the U.S. HTC made modifications for  
4 everywhere that the handset was shipped outside of the  
5 U.S. where we -- at that point we'd open sourced the  
6 source code and told them, you know, "You can ship this  
7 as long as it's compatible with the original, with the  
8 Android platform."

09:59:23

9 Q. With respect to the HTC Dream in particular  
10 that your team was helping HTC with --

09:59:44

11 A. Uh-huh.

12 Q. -- in the 2007 time period, did your team  
13 test or examine that phone in its final form?

14 A. That wasn't a responsibility of my team.

15 Q. What insight did your team have as to the  
16 installed code on that phone in its final form?

10:00:02

17 A. What insight? I'm not sure I understand what  
18 you mean by insight.

19 Q. Did your team have any knowledge of the  
20 installed code on -- strike that.

10:00:21

21 I assume your team had some knowledge about  
22 the code that was actually installed on the HTC Dream?

23 MR. KAMBER: Object to the form.

24 THE WITNESS: Yes.

25 Q. BY MR. MUINO: And how did -- how did your

10:00:31

1 team acquire knowledge of that code installed on the HTC  
2 Dream?

3 A. By talking to HTC. Again, for maybe the  
4 early versions of that, for the U.S. version, we would  
5 know more about what went on it because we worked more 10:00:49  
6 closely with HTC. Beyond the U.S. version, I -- HTC at  
7 times shared with us changes that they were making. I  
8 don't remember specific changes, but would let us know,  
9 you know, "Here are some things we're going to change,"  
10 and let us know. 10:01:12

11 Q. Aside from the HTC Dream, I think you  
12 testified that your team also worked on a prototype  
13 device --

14 A. Yes.

15 Q. -- with HTC in this time period. 10:01:20

16 To your knowledge, that was never released to  
17 the market?

18 A. It was not.

19 Q. Other than that prototype device and the HTC  
20 Dream, do you recall any other HTC devices that your team 10:01:34  
21 worked with HTC on during this time?

22 A. During --

23 Q. 2007.

24 A. 2007 and 2008, no. Those would be the only  
25 two. 10:01:51

1                   particular and the modifications that they represent?

2                   MR. KAMBER: Object to the form.

3                   THE WITNESS: There are tens of thousands of  
4                   patches if not more, so I did not study any particular  
5                   patches there.

10:24:54

6                   Q. BY MR. MUINO: You previously mentioned the  
7                   Open Source change log.

8                   A. Yes.

9                   Q. And you said you reviewed that in preparation  
10                   for today.

10:25:03

11                   A. Yes.

12                   Q. What does the Open Source change log show?

13                   MR. KAMBER: Object to the form.

14                   THE WITNESS: The Open Source change log  
15                   shows patches -- patches that were accepted by the  
16                   maintainers of the Open Source Project or the component  
17                   in Open Source that were then merged into the code base.  
18                   So not the full set of patches that were sent to the Open  
19                   Source Project, but those that were actually accepted and  
20                   merged in.

10:25:14

21                   Q. BY MR. MUINO: And when you say the Open  
22                   Source code base, do you mean the Android code base?

23                   A. Yes. The Android Open Source Project.

24                   Q. So this was code submitted by OEMs that  
25                   ultimately was included in Android itself?

10:25:55

1 MR. KAMBER: Objection to form.

2 THE WITNESS: The code -- the patches or the  
3 change log that I reviewed, did not indicate who -- the  
4 company for the author of each of these patches, so I  
5 have no way of knowing if they came from OEMs or, you 10:26:16  
6 know, silicon vendors, carriers or anonymous third  
7 parties. Most of these just come in with a personal  
8 email address.

9 Q. BY MR. MUINO: Do you know if any of those

10 changes reflected on the change log are indicative of 10:26:33

11 changes made on actual Android devices?

12 MR. KAMBER: Objection to form.

13 THE WITNESS: Are they indicative of changes  
14 made? I would assume that many of the changes that are  
15 being contributed are being contributed for purposes of 10:26:54  
16 shipping on an Android device. Again, these are a small  
17 subset of changes that any third party would make when  
18 shipping Android on hardware. So they would submit some  
19 small portion of those to the Open Source Project.

20 Q. BY MR. MUINO: Who maintains the Open Source 10:27:18  
21 change log? Is that in Google's possession?

22 A. No. It's operated by a third party,  
23 kernel.org.

24 Q. Is that publicly accessible?

25 A. It is. 10:27:32

1 Q. BY MR. MUINO: Was the dexopt tool installed  
2 on Samsung Galaxy?

3 MR. KAMBER: Objection to form.

4 THE WITNESS: Again, I do not know.

5 Q. BY MR. MUINO: Was the Zygote process 10:32:22  
6 capability installed on Samsung Galaxy?

7 MR. KAMBER: Objection to Form.

8 THE WITNESS: I can't say for sure, but I  
9 would assume that the Zygote process was installed.

10 Q. BY MR. MUINO: And does that formulation make 10:32:36  
11 sense to you, Mr. Brady? I understand your pushback that  
12 Zygote process is a process that happens.

13 A. Yes.

14 Q. If I say Zygote process capability, do you  
15 understand that to refer to the ability of the phone to 10:32:47  
16 use a Zygote process to generate virtual machines to run  
17 other applications?

18 MR. KAMBER: Objection. Form.

19 THE WITNESS: Yes. I think I -- yes. I  
20 understand that -- that use now that we've used it 10:32:59  
21 several times.

22 Q. BY MR. MUINO: Are you aware of any changes  
23 that Samsung made to the Android code on the Galaxy?

24 A. They made extensive changes. I don't know  
25 the specifics. 10:33:14

1 Q. What do you know in that regard?

2 MR. KAMBER: Objection. Form.

3 THE WITNESS: What I do remember that jumps  
4 out at me specifically, they made several changes to the  
5 user interface. I believe at the time -- I'm not sure if 10:33:29  
6 this was on the Galaxy. It may have been other devices,  
7 but Samsung was making changes to -- to the Dalvik  
8 Virtual Machine, but I don't remember the specifics.  
9 They were changing the way that bytecode would be  
10 interpreted or executed on the device. I believe they 10:33:53  
11 were adding an ahead of time compiler and changing other  
12 things.

13 Q. BY MR. MUINO: Let's move on to the Galaxy S.

14 Was the Android platform installed on the Galaxy S?

15 A. I believe it was. 10:34:22

16 Q. And what work did your team do with Samsung  
17 in connection with the Galaxy S?

18 A. Similar to the other devices, general support  
19 when Samsung ran into issues and helping them to --  
20 general operational, so helping them apply security 10:34:41  
21 patches, helping them with compatibility issues related  
22 to third-party applications.

23 Q. Was the Dalvik Virtual Machine installed on  
24 the Galaxy S?

25 MR. KAMBER: Objection to form. 10:34:59

1 Q. BY MR. MUINO: One or more of their Android  
2 devices.

3 MR. KAMBER: Same objection.

4 THE WITNESS: I don't recall Samsung telling  
5 us that they were not going to. 11:12:12

6 Q. BY MR. MUINO: Let's do one more OEM,  
7 Motorola.

8 Can you tell me what Motorola devices has  
9 Google worked on?

10 A. Yes. The Motorola Droid, the Motorola Cliq,  
11 Motorola DEX, the Motorola Titanium, the Motorola Droid  
12 X, Droid 2, Droid 3, Droid Pro. There's many more, but I  
13 don't recall the specific names. I believe they have one  
14 called a Motorola Brady. No relation. 11:12:25

15 Q. To expedite this process of questioning, is  
16 the Android platform installed on each of the Cliq --  
17 excuse me -- Droid, Cliq, DEX, Titanium, Droid X, Droid  
18 2, Droid 3 and Droid Pro devices? 11:13:25

19 MR. KAMBER: Object to the form.

20 THE WITNESS: Some version of an Android 11:13:46  
21 platform is installed on those devices. Again, Motorola  
22 made extensive modifications, so --

23 Q. BY MR. MUINO: Is a Dalvik Virtual Machine  
24 installed on each of the Droid, Cliq, DEX, Titanium,  
25 Droid X, Droid 2, Droid 3 and Droid Pro devices? 11:14:04

1 MR. KAMBER: Objection to form, beyond the  
2 scope.

3 THE WITNESS: I -- my understanding is that  
4 there are -- in the Android SDK documentation, there are  
5 instances of Java programing language, API, name spaces  
6 or packaged names, that do have Java in the name sets.

7 Q. BY MR. MUINO: Has any Android device maker  
8 modified the Android API's that are required to be  
9 present in the Android platform to be compatible?

10 MR. KAMBER: Objection to form.

11:33:35

11 THE WITNESS: I would -- unfortunately, I  
12 would say every device manufacturer has modified -- not  
13 the API signatures themselves, but the underlying  
14 behavior, if you will, and the underlying implementation  
15 of those -- of those API's.

11:34:20

16 Q. BY MR. MUINO: Has any such modification  
17 resulted in the device becoming incompatible, not failing  
18 to pass the CDD?

19 MR. KAMBER: Objection to form.

20 THE WITNESS: Certainly. Certainly. Those  
21 modifications often result in that.

11:34:40

22 Q. BY MR. MUINO: With respect to the devices,  
23 the Samsung, Motorola, HTC and LG devices we discussed  
24 this morning, do those devices contain the required  
25 Android API's required by the CDD?

11:35:01

1 A. I do.

2 Q. The first sentence there is: "Device  
3 implementations must support the full Dalvik Executable  
4 (DEX) bytecode specification and Dalvik Virtual Machine  
5 semantics."

11:36:50

6 Do you see that?

7 A. I do.

8 Q. Under this requirement, is it necessary to  
9 have a Dalvik Virtual Machine in your Android  
10 implementation in order for the implementation to be  
11 compatible?

11:37:04

12 MR. KAMBER: Objection to form.

13 THE WITNESS: Absolutely not. You must have  
14 a virtual machine that's capable, as it says here, of  
15 supporting the Dalvik executable bytecode.

11:37:15

16 So you could create another clean room  
17 implementation virtual machine that was able to execute  
18 this bytecode.

19 Q. BY MR. MUINO: Are you aware of any OEMs --  
20 Android OEMs that have done that, created an alternative  
21 implementation of the virtual machine capable of  
22 executing the Dalvik bytecode?

11:37:33

23 A. Well, I think, you know -- and it's hard to  
24 distinguish what constitutes creating an alternative  
25 version. So as I said, many of our partners make

11:37:52

1 extensive modifications to Android, the platform in  
2 general, and some to Dalvik as well.

3 And so I would say that each one of them is  
4 creating a kind of unique version of Android. And in  
5 some cases, of the Dalvik -- the Dalvik -- or a Dalvik  
6 Virtual Machine that runs this bytecode. And, in fact,  
7 sometimes, you know, this causes compatibility problems  
8 that we find out later on.

9 Q. Have any OEMs told you that they intended to  
10 replace the Dalvik Virtual Machine with their own virtual  
11 machine implementation? 11:38:06

12 MR. KAMBER: Objection to form.

13 THE WITNESS: Yeah, I don't think -- I don't  
14 recall any OEMs telling us specifically that they  
15 intended to replace the Dalvik Virtual Machine. 11:38:27

16 As I said earlier, you know, many OEMs have  
17 told us portions they intended to change in what is  
18 provided -- in the source code that's provided in the  
19 Android Open Source Project for their implementations of  
20 the Dalvik Virtual Machine. 11:38:43

21 Q. I'm going to show you what was previously  
22 marked as Exhibit 235 (indicating). This is the  
23 Compatibility Test Suite framework user manual for  
24 Android 1.6.

25 Have you seen this document before, 11:39:01

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**ERRATA SHEET**  
**Patrick Brady - TOPIC 7**  
**Deposition date: July 21, 2011**

I, PATRICK BRADY, hereby certify that I have carefully read the foregoing transcript, and that the same is a true and correct transcription of my deposition, except:

Page	Line	Change	Reason
46	14	"adjustment time compiler" should read "AOT compiler"	Transcription error
47	23	"duel core processor" should read "dual-core processor"	Spelling
65	14	"skew" should read "SKU"	Spelling
72	13	"Goggle" should be "Google"	Transcription error
75	6	"Java in the name set" should be "java in the namespace"	Misheard
85	15	"Android" should be "droid"	Misheard
91	11	"information" should be "implementation"	Misheard
93	10	"understand" should be "understanding"	Misheard
99	8	"dexopt implementation" should be "DEX optimixation"	Misheard
120	21	"Is it – the high quality" should be "is it high quality"	Misheard
120	25	"better than not up-stirring" should be "better to not upstream"	Misheard

Witness Signature:


Date: Sept. 1, 2011

1 STATE OF CALIFORNIA ) ss:

2 COUNTY OF MARIN )

3  
4 I, LESLIE ROCKWOOD, CSR No. 3462, do hereby  
5 certify:

6 That the foregoing deposition testimony was  
7 taken before me at the time and place therein set forth  
8 and at which time the witness was administered the oath;

9 That testimony of the witness and all  
10 objections made by counsel at the time of the examination  
11 were recorded stenographically by me, and were thereafter  
12 transcribed under my direction and supervision, and that  
13 the foregoing pages contain a full, true and accurate  
14 record of all proceedings and testimony to the best of my  
15 skill and ability.

16 I further certify that I am neither counsel  
17 for any party to said action, nor am I related to any  
18 party to said action, nor am I in any way interested in  
19 the outcome thereof.

20 IN WITNESS WHEREOF, I have subscribed my name  
21 this 26th day of July, 2011.

22  
23  
24  
25   
LESLIE ROCKWOOD, CSR. NO. 3462

1 I declare under the penalty of perjury  
2 under the laws of the State of California that the  
3 foregoing is true and correct.

4 Executed on September 1<sup>st</sup>, 2011,  
5 at Mountain View, CA.

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12 SIGNATURE OF THE WITNESS  
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